

# Self-Teaching Arithmetic

Self-Study

1

Self-Test

Self-Check

By John W. Studebaker

Vice President, Scholastic Magazines U.S. Commissioner of Education (1934-1948)

and Gordon Studebaker

Illustrated by PAUL GRANGER

**KNOWLEDGE MASTER BOOKS** 

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First printing......February 1962

# How to Use This Book

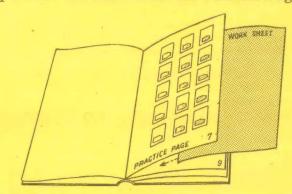
This is a new kind of book designed to enable a child to learn at his own rate of speed. With it he can study the basic arithmetic facts, test his knowledge of these facts, and correct his test all by himself. The child will, of course, need guidance in the beginning, until he has learned the mechanics of the book. Once he understands how to work with the book, however, he will find it easy to use — and fun.

The book includes 32 pairs of pages. One page in each pair — the Practice Page — contains 15 facts with apertures ("windows") below them. The answers for the facts show through the windows. On the Study Pages facing the Practice Pages are illustrations that will help the child visualize the basic arithmetic facts. (You will find it helpful to turn to the pages cited as you read these directions.)

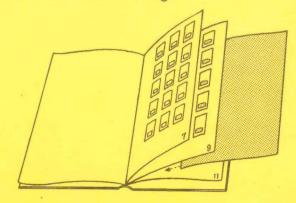
This is how the child should use the Knowledge Master Book:

- He studies the facts and their answers until he thinks he knows the answers to all of the facts on the Practice Page.
- 2) He tests himself. He puts his work sheet (a piece of paper or a Magic Slate) directly under the Practice Page. If he has been studying the facts on page 7, for instance, he puts his work sheet under page 7—that is, between pages 8 and 9 and on top of page 9. The answers will then be hidden. If the paper he uses is not opaque enough to hide the answers, he should use more than one sheet. He writes the answers through the windows directly below the facts.
- 3) He checks his work. When he has written the answers to the facts on page 7, he puts the work sheet under page 9, on top of page 11. Both his answers and the correct answers will show through the windows below the facts. He checks to see where he is making mistakes. He repeats this process until he answers correctly all of the facts on the Practice Page. Then he goes on to the next Practice Page.

On each of the Practice Pages you will find directions telling where the child should put his work sheet each time. A good rule for the child to remember is that when he is testing himself, he will always put his work sheet under the Practice Page.



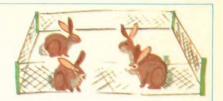
When he is checking his answers, he will always put his work sheet under the leaf below the Practice Page.



#### HOW TO ADD

A

2 rabbits and 2 rabbits are 4 rabbits. Two and two are four. 2 and 2 are 4. How many rabbits are there altogether?



В

This is a **plus** sign: + It means **add**.
When you add, you put together.

How many birds are there altogether?



C

How many ducks are there altogether?



 $\frac{3}{+2}$ 

D



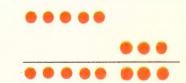
2 paper dolls and 3 paper dolls are 5 paper dolls.

2 and 3 are 5.

How many paper dolls are there in all?

E

You may read this example in two ways: 5 and 3 are 8. 5 plus 3 is 8.



## HOW TO SUBTRACT





W W



4 rabbits were in a pen.

2 rabbits jumped out.

How many were left?

В



How many birds are left in the bird bath?
This is a minus sign: —
It means subtract.

6 4

C



David had

He spent

David's change

Count David's change.



D

Robert wants to put one in each . 7
How many more s does Robert need? \_ 5
5 and how many more are 7? ?





E

Study this example: 

- 5

You may read this example in four ways:

5 from 8 is 3.

8 take away 5 is 3.

8 minus 5 is 3.

5 and 3 more are 8.

This page is for study only. Study the pictures below as you look at the facts on page 7.

2 pigs and 2 2 pigs are 4 2 how many pigs?

2 balls and 6 balls are how many balls?

3 birds were on a line.
4 more came.
4 and 4 are?

3

D \* \* \* \* 5 \* \* 5 5 and 2 are? ?

3 dolls and 3 dolls are + 3 how many dolls?

5 dogs and 5 dogs are + 3 how many dogs? ?

6 girls were playing. 6
2 more came. + 2
6 and 2 are how many? ?

2 + 4 ? 2 and 4 are how many?

4 tops and 3 tops are how many tops?

4 tops and 4 + 3 
?

X 3 apples and 2 apples are how many apples? ?

3 books and 5 books are how many books?

3 books ?

4 hats and 2 hats are how many hats?

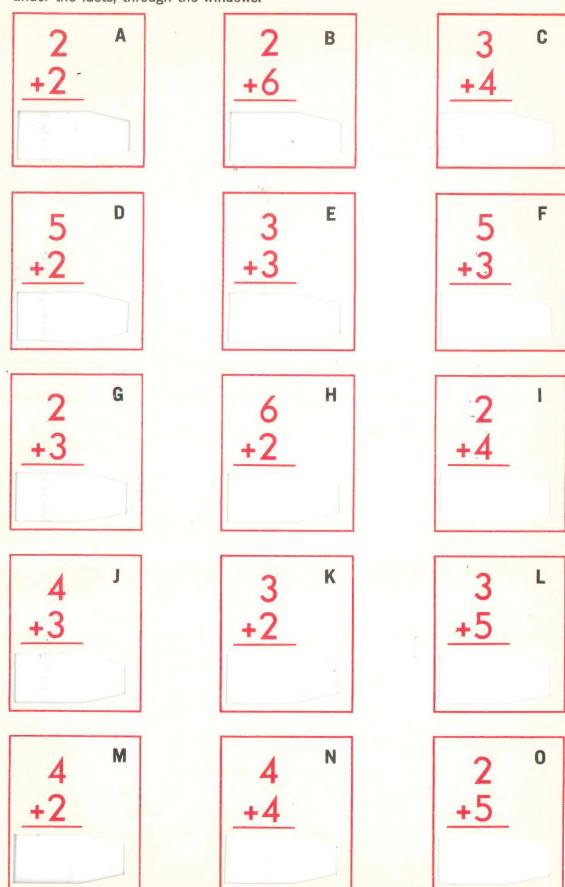
4 hats are 7

1 4 + 4 + 4 ? 4 and 4 are how many?

2 stars and 5 stars are how many stars?

**WHAT TO DO: 1** — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 9. See if your answers are the same as the little red numbers in the windows.

This page is for study only. Study the pictures below as you look at the facts on page 9.

A 5 apples 2 were on the table. 2 fell off. How many were left?

B 8 8 nuts. 4 A squirrel took 4. How many were left? 6 6 books.

- 4 Take away 4.

How many will be left?

6 2 6 bananas. ? A monkey took 2. How many were left?

7
7
9
7
9
1
1
1
2
3
4
5
6
7
9
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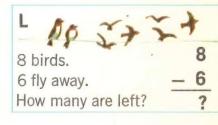
Mary had
5 balloons.
She lost 3.
How many did she keep?

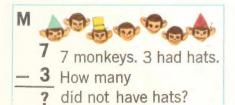




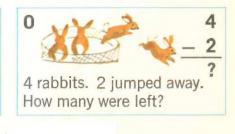
7
7 dresses. 2 are red.
How many are not red?
?





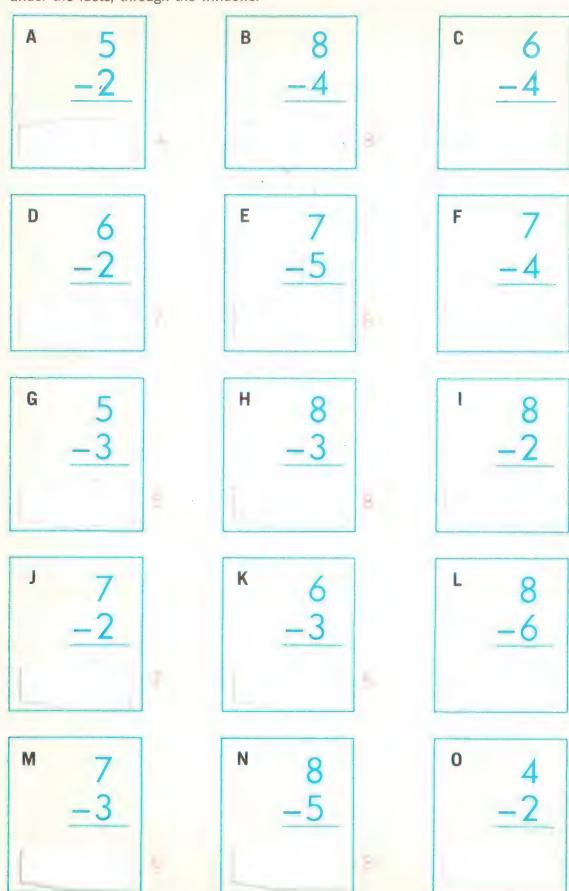






**WHAT TO DO: 1**—Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.

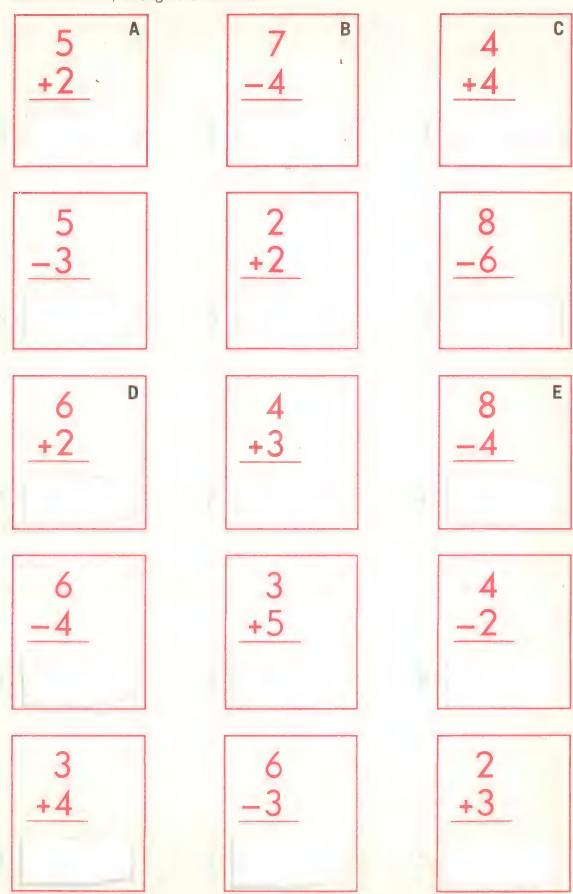


3 — Now check your work. Put your paper or Magic Slate under page 11. See if your answers are the same as the little blue numbers in the windows.

#### NOTE:

**WHAT TO DO:** 1 - Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 8. See if your answers are the same as the little red numbers in the windows.

#### NOTE:

The blue numbers outside the boxes have nothing to do with the facts on this page.

# IN THE PARK

This page is for study only. Study the pictures below as you look at the facts on page 10.



5 squirrels and 2 squirrels are how many squirrels?

5 + 2 ?

В



There were 7 s. 4 walked away. How many were left?

7 \_ 4 ?

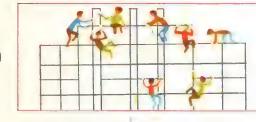
C

How many girls are there altogether?





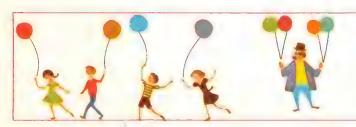
D



How many boys are there in all?

6 + 2 ?

E



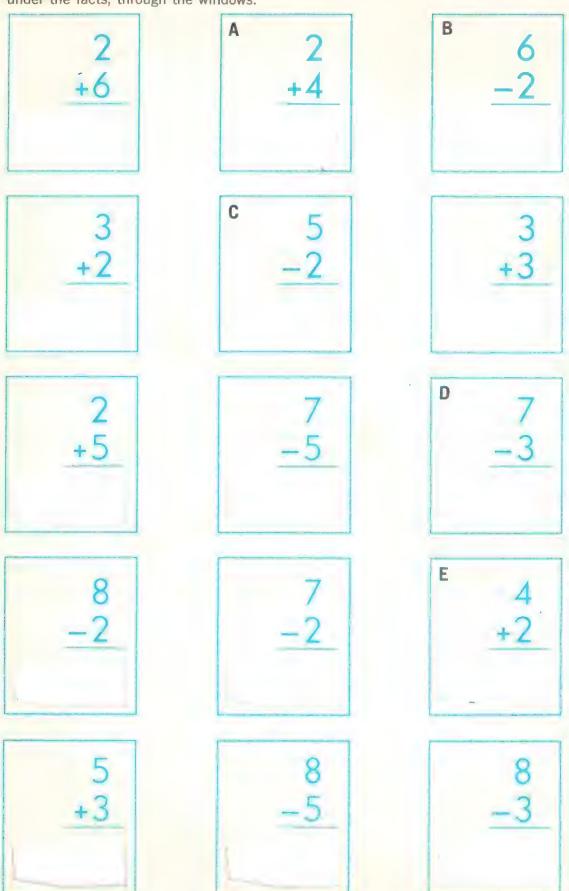
The man had 8 balloons. He gave 4 of them to the children.

 $\frac{-4}{?}$ 

How many does he have left?

WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 10. See if your answers are the same as the little blue numbers in the windows.

.....

# AT THE PET STORE

This page is for study only. Study the pictures below as you look at the facts on page 12.



2 dogs and 4 dogs are how many dogs?

2 + 4 ?

B

- 2 2 There were 6 birds. 2 were sold. How many were left?



C



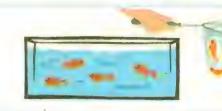
The man had 5 rabbits. He sold 2. How many rabbits did he have left?

- 2 ?

D

7 - 3

The man had 7 \to He sold 3.
How many \to did he have left?



E



JAPA.

4 kittens and 2 kittens are how many kittens?

+ 2

#### AT THE LIBRARY

A



В

C



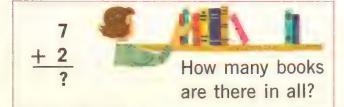
How many books do the children have?

D





E

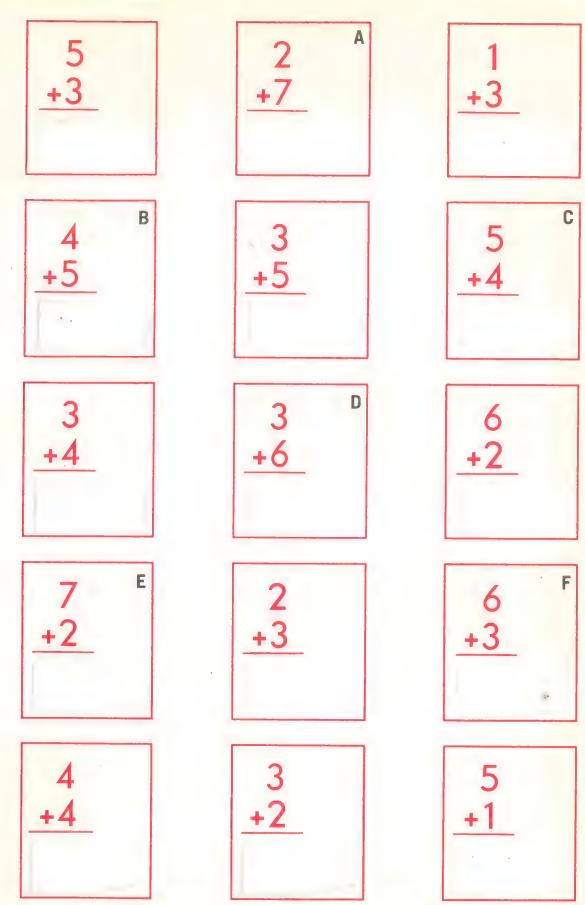


6 + 3 ?

6 books and 3 books are how many books?



F



**WHAT TO DO:** 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 17. See if your answers are the same as the little red numbers in the windows.

# HALLOWEEN

A



Each child wants an apple. How many more apples are needed?

В



Each child wants a ... How many more As are needed?

C



Each child wants a

How many more are needed?

D



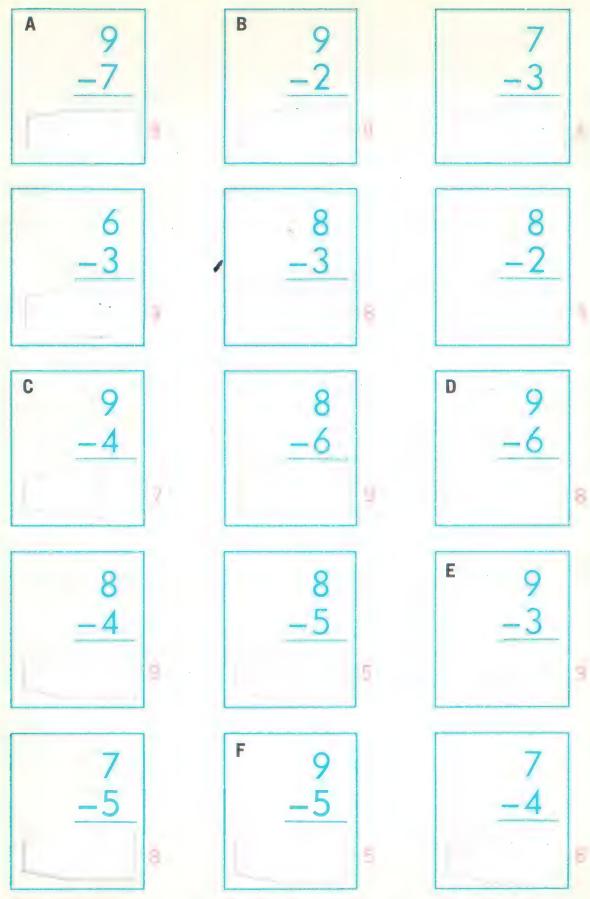
Each witch wants a black cat. How many more black cats are needed?

E

There should be a at each place. How many more are needed?

John had • • • • • • • • • • Joe had 6666 How many more pumpkins did John have than Joe?

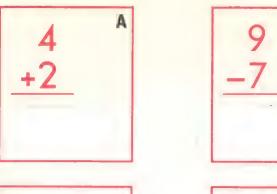
This page is for study only. Study the pictures above as you look at the facts on page 17. DO NOT write through the windows in this page.



**WHAT TO DO:** 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 19. See if your answers are the same as the little blue numbers in the windows.

#### NOTE:



**WHAT TO DO:** 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2-Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 16. See if your answers are the same as the little red numbers in the windows.

#### NOTE:

# INDIANS

2

A

s and 2 are how many \_\_\_\_\_s?



В



How many ∡s do you see?

5

C



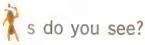
s were on the raft. 5 jumped into the water. How many As are left on the raft?

9

D



How many



7

4

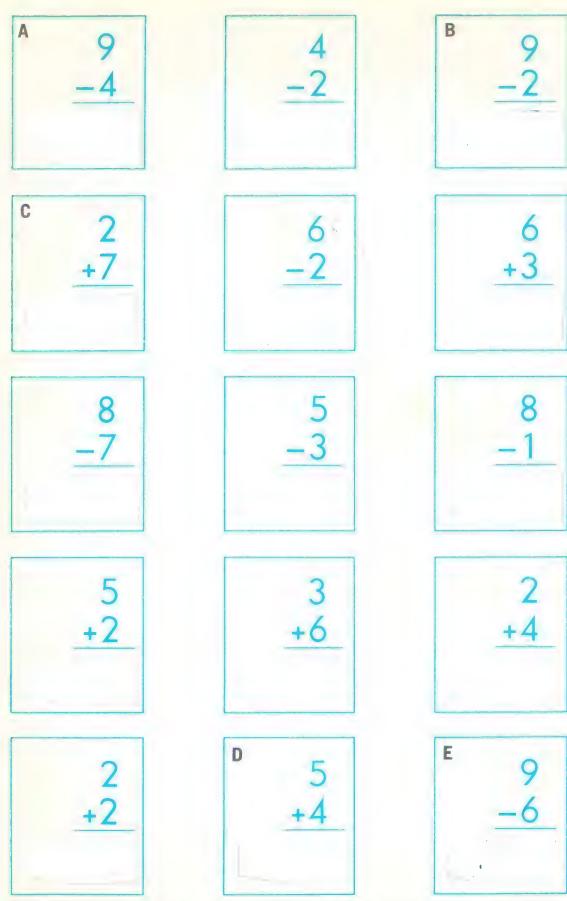
E

The boy had 9 ms. s ran away. How many 🧖 were left with the boy?





This page is for study only. Study the pictures above as you look at the facts on page 18. DO NOT write through the windows in this page.



**WHAT TO DO:** 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 18. See if your answers are the same as the little blue numbers in the windows.

# IN THE PLAY ROOM

Α



There were 9 blocks.
Ted took away 4 blocks.
How many blocks are left?

P



There were 9 toy trucks. Tim took 2 away.

How many toy trucks are left?

- 2

C

2 train cars and 7 train cars are how many train cars?



D



How many airplanes are there in all?

Ε

There are 9 animals.

6 are bears. How many are monkeys?

 $\frac{-6}{?}$ 

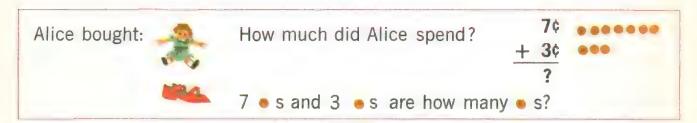


#### THE CHILDREN'S STORE

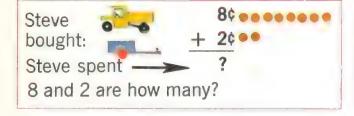
This page is for study only. Study the pictures below as you look at the facts on page 23.



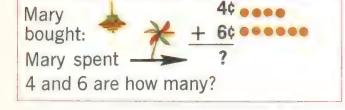
A



В



D

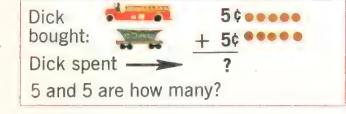


Ruth wanted: + 4¢ ••••

Ruth needed - ?

6 and 4 are how many?

F



John wanted: + 8¢ + 8¢ - 2 and 8 are how many?

G

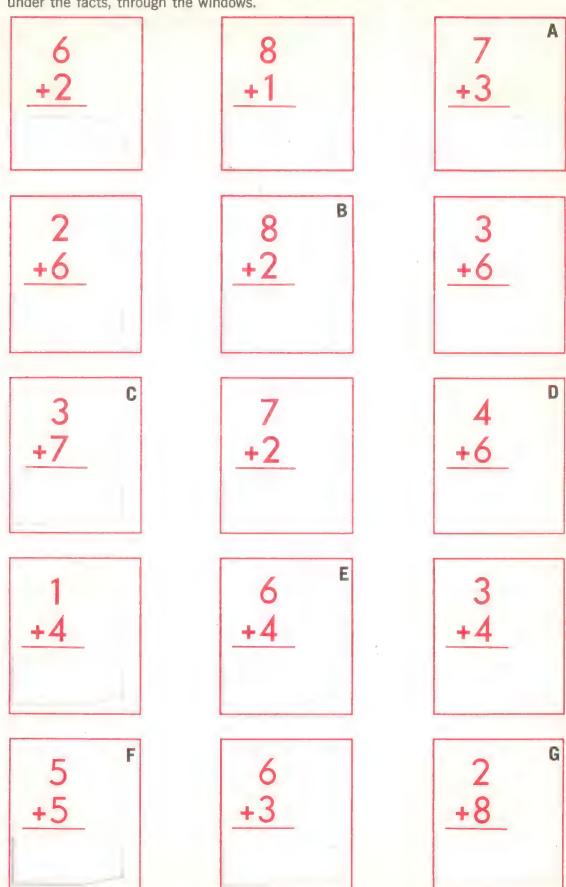
C

E

14

**WHAT TO DO:** 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 25. See if your answers are the same as the little red numbers in the windows.

#### MAKING CHANGE

This page is for study only. Study the pictures below as you look at the facts on page 25.



A

He bought Count Billy's change.

10¢ ••••• - 8¢ ••••

В

Susan had 10¢
She bought 2 4¢
Count Susan's change.

June had
She bought

- 7¢

Count June's change.

D

Fred had 10¢ 10¢ He bought - 5¢ ?

E

G

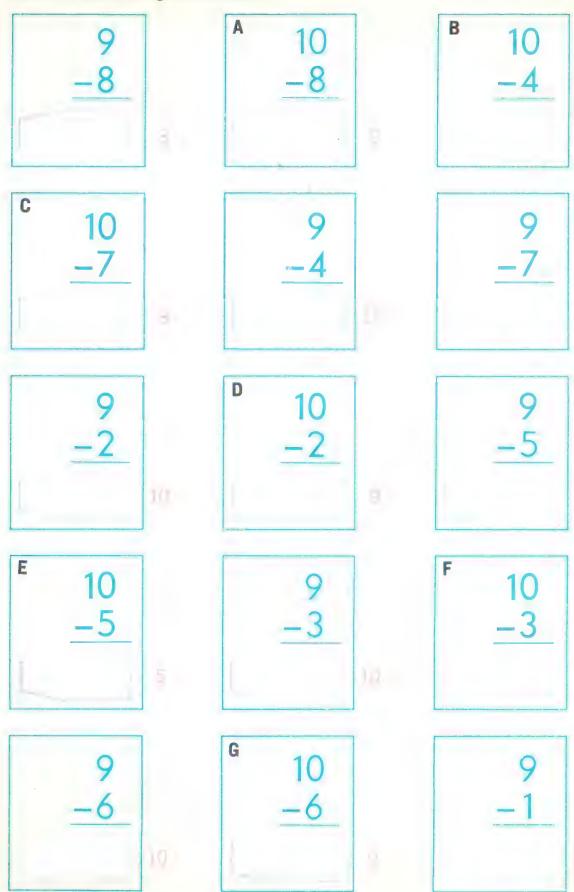
F

Lucy had 10¢
She bought - 3¢
Count Lucy's change.

Ned had The bought To the boug

**WHAT TO DO: 1** — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



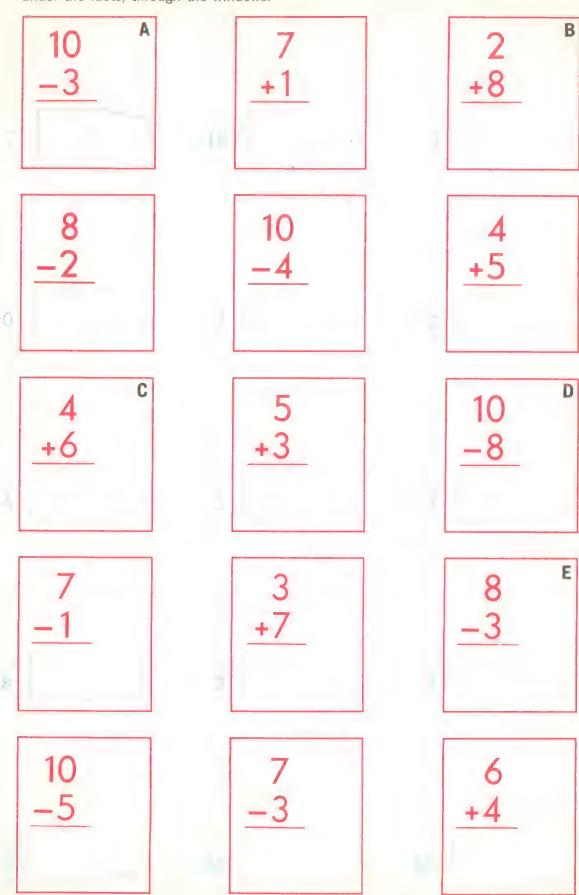
3 — Now check your work. Put your paper or Magic Slate under page 27. See if your answers are the same as the little blue numbers in the windows.

#### NOTE

The red numbers outside the boxes have nothing to do with the facts on this page.

**WHAT TO DO:** 1 - Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 24. See if your answers are the same as the little red numbers in the windows.

#### NOTE

Indiana.

## ON THE FARM

This page is for study only. Study the pictures below as you look at the facts on page 26.

A

10 eggs were in the basket. Sue took out 3 eggs. How many eggs were left? 10



0

6

В

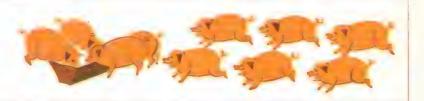


2 chickens and 8 chickens are how many chickens?

+ 8 ?

C

How many pigs are there in all?



D



10 ducks were in the water. 8 ducks walked away. How many ducks

How many ducks

are left in the water?

10

8

E

8 sheep were eating grass.
3 sheep jumped away.
How many sheep
were still eating grass?

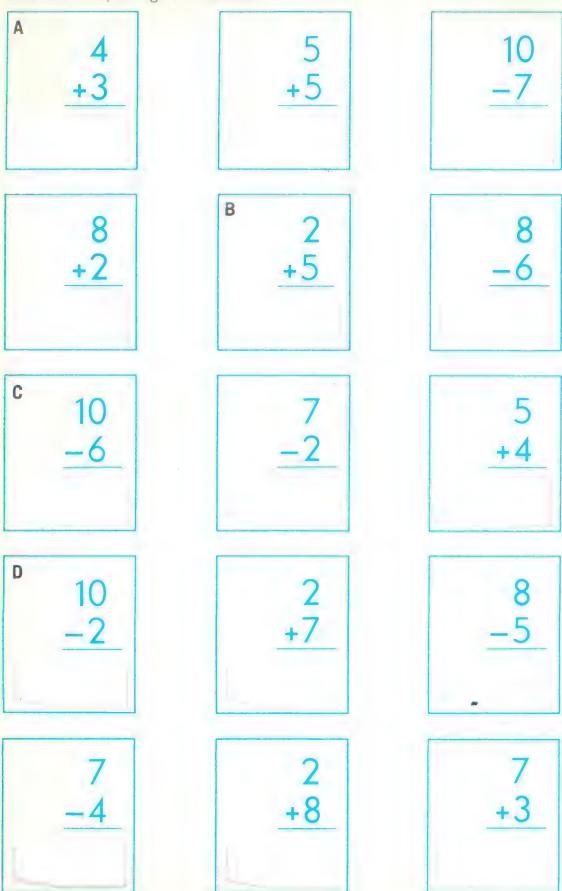
3

4

8

WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 – Now check your work. Put your paper or Magic Slate under page 26. See if your answers are the same as the little blue numbers in the windows.

# AT THE TOY STORE

This page is for study only. Study the pictures below as you look at the facts on page 28.



A



4 cars are in one row.

3 cars are in another row.

How many cars are there in all?

4 + 3

B



2 dolls are in the top row.

5 dolls are in the bottom row.

How many dolls are there altogether?

2

- 5

\_



There are 10 boats in the top row.

6 boats are red.

How many are blue?

10

?

D



There were 10 tops in the bottom row.

2 tops were sold.

How many tops are left?

?

#### GOING FOR A RIDE



How many cows did they see? 5 A 6 5 and 6 are how many?

How many pigs did they see? B 2 and 9 are how many?

How many ducks did they see? C 8 3 and 8 are how many?

How many trucks did they see? The Park House Park The first the fire the third the 4 and 7 are how many?

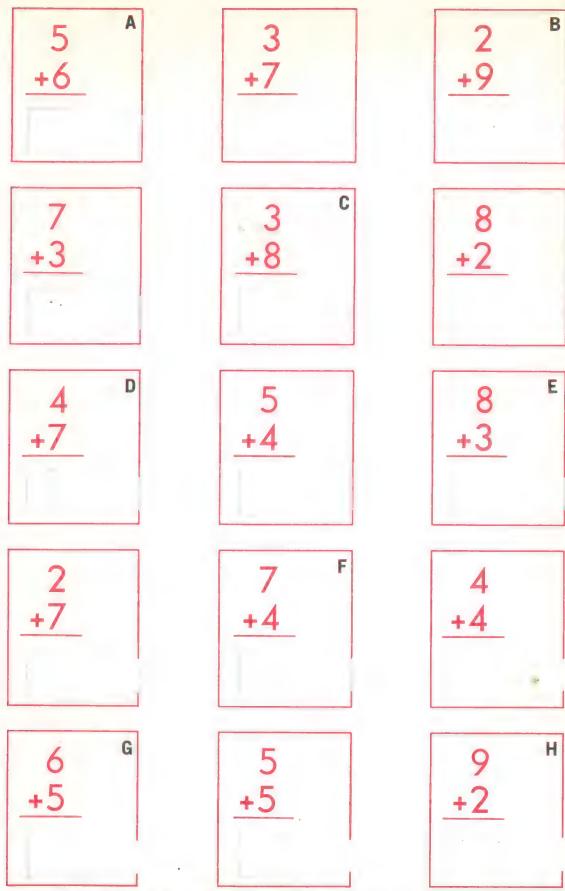
How many chickens did they see? E 8 and 3 are how many?

How many sheep did they see? 7 and 4 are how many?

How many horses did they see? 6 G 6 and 5 are how many?

How many squirrels did they see? H 9 and 2 are how many?

This page is for study only. Study the pictures above as you look at the facts on page 31.



**WHAT TO DO: 1** — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 33. See if your answers are the same as the little red numbers in the windows.

### PLAYING STORE



 Dick had 11¢ .... B

He bought a — 5¢ .... B

How many cents did Dick have left?

 John had 11¢ ... D

He bought a ... \_ 9¢ ... D

How many cents did John have left?

Carl had 11¢ F

He bought a — 6¢
?

How many cents did Carl have left?

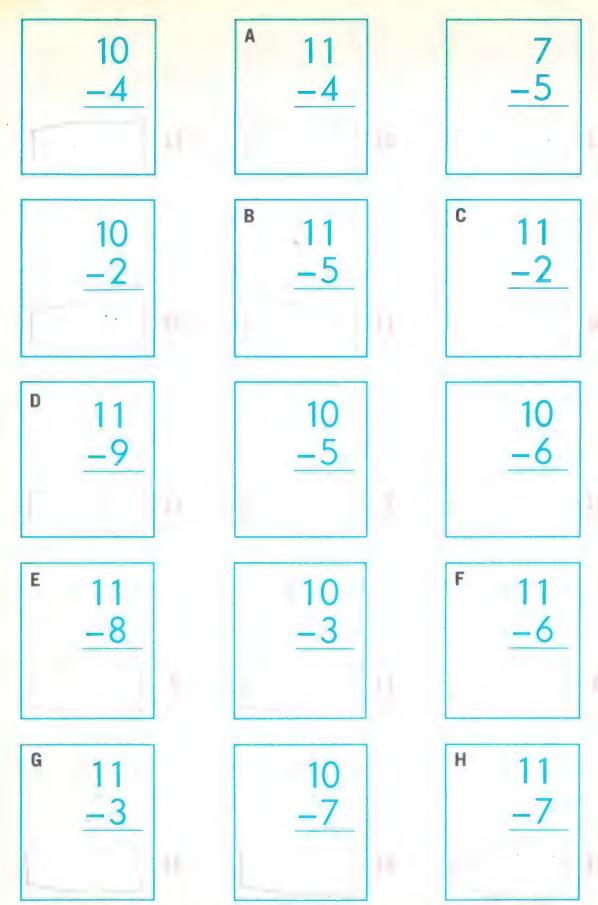
Sue had 11¢ •••••

She bought a - - 3¢ •••

Did she have enough money left for a †?

Tim had 11¢ ••••• He bought a + - 7¢ •••• How many cents did Tim have left?

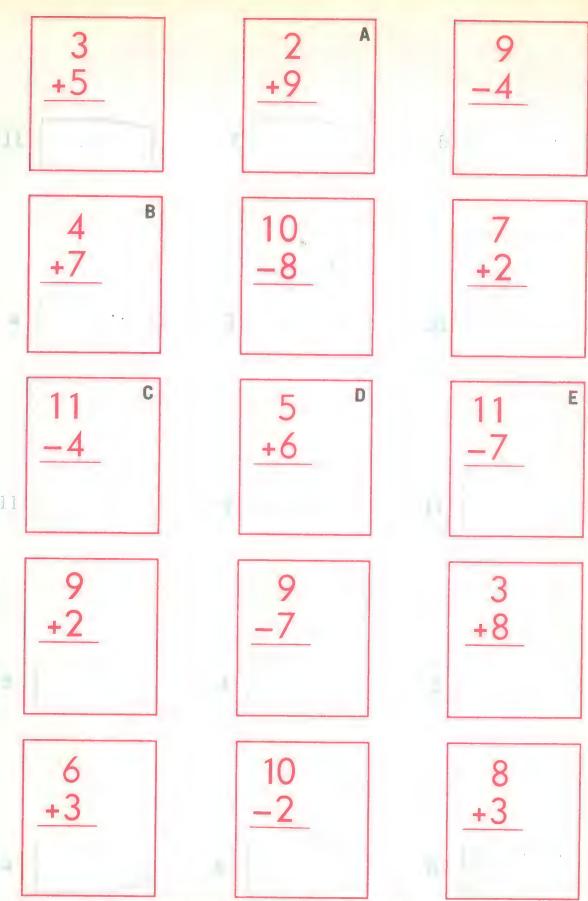
This page is for study only. Study the pictures above as you look at the facts on page 33. DO NOT write through the windows in this page.



**WHAT TO DO:** 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 35. See if your answers are the same as the little blue numbers in the windows.

#### NOTE:



**WHAT TO DO:** 1 - Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3- Now check your work. Put your paper or Magic Slate under page 32. See if your answers are the same as the little red numbers in the windows.

#### NOTE:

#### TIME FOR THANKSGIVING



2 pieces of pie and 9 pieces of pie are how many pieces?



How many ♥ s are there altogether?

There were 11 pumpkins. 4 were sold. How many pumpkins are left on the table?



D

C



5 dishes and 6 dishes are how many dishes?



8

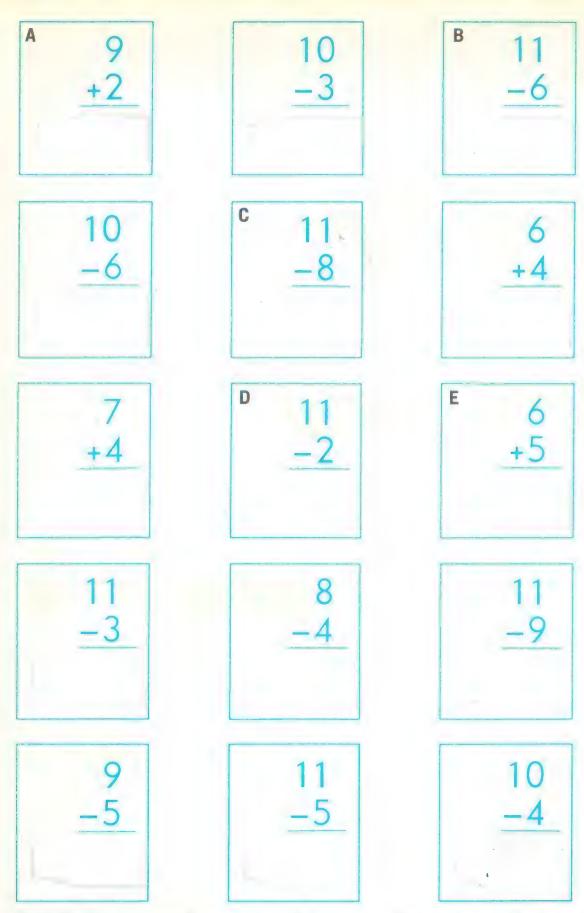
3

E

There are 11 \$\frac{1}{2}s. 7 have hats. How many do not have hats?



This page is for study only. Study the pictures above as you look at the facts on page 34. DO NOT write through the windows in this page.



WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 34. See if your answers are the same as the little blue numbers in the windows.

## PLAYING THROW THE RING

Jim made 9 ringers. Billy made 2 ringers. How many ringers did they make in all?

Jim threw 11 rings. He made 6 ringers. How many times did he miss?

B

C

E

$$\frac{11}{-6}$$

Ruth threw 11 rings. She made 8 ringers. How many times did she miss?

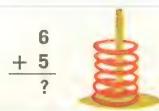


Billy threw 11 rings. D He made 2 ringers.

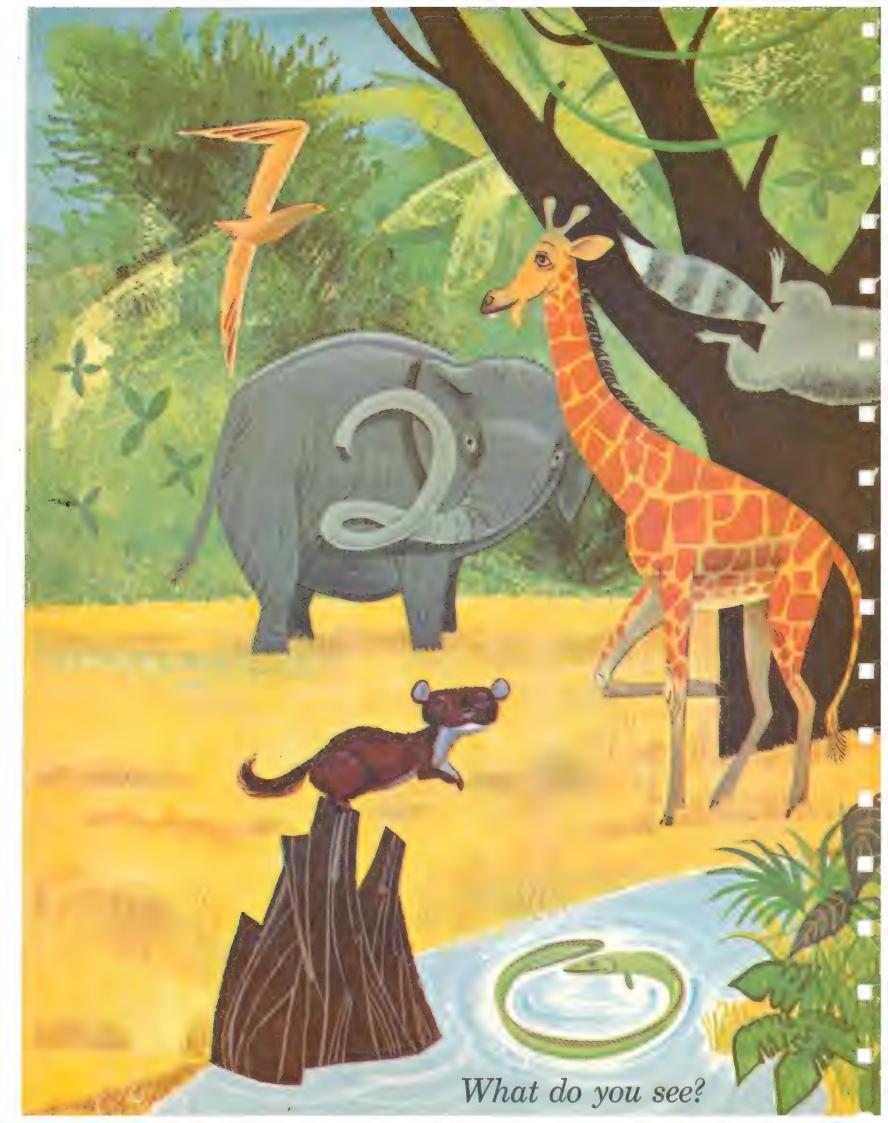
How many times did he miss?

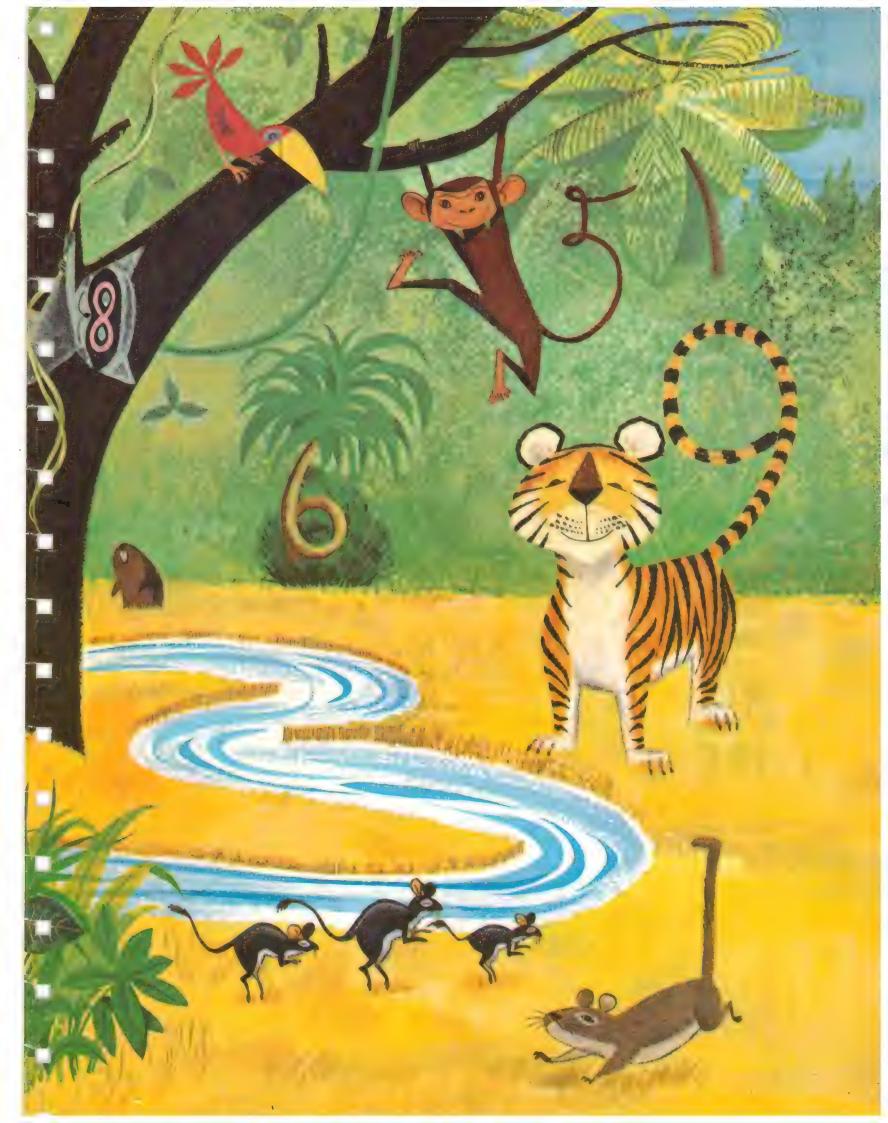


Jim made 6 red ringers. Ruth made 5 green ringers. How many ringers did they make altogether?









#### CHRISTMAS TIME

This page is for study only. Study the pictures below as you look at the facts on page 41.



A

How many  $\stackrel{\bullet}{\bullet}$  s are there in all? 6 and 6 are how many?

6 + 6

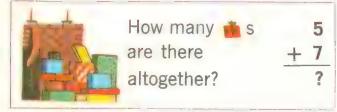


P

4 stars and 8 stars are how many stars? + 8 ?

How many s are there in all?

D



How many sare there in all?

9 + 3 ?

F

7 apples and 5 apples are + 5 how many apples? ?

3 toys and 9 toys are how many toys?



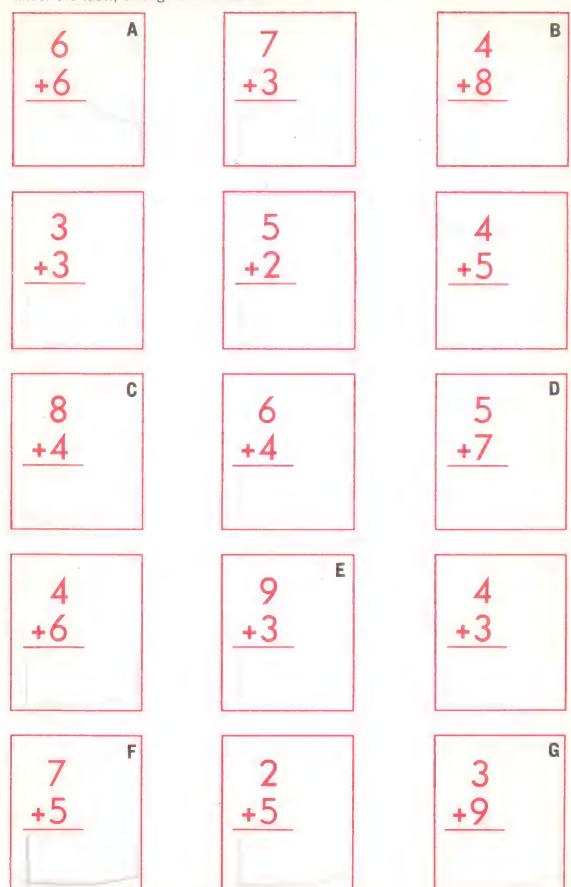
G

C

E

**WHAT TO DO: 1** — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 43. See if your answers are the same as the little red numbers in the windows.

## DOZENS AND DOZENS

This page is for study only. Study the pictures below as you look at the facts on page 43.



dozen always means 12.



A dozen bananas A dozen oranges

A dozen crayons



Mother had a dozen eggs. She cooked 4 of them.

12

How many eggs were left?

B

D

Mother had a dozen oranges. 12 6 She used 6. ? How many were left?

There were 12 apples. Mother took 9 away. How many were left?



There were a dozen lollipops. The children ate the red ones. How many were left?

There were 12 bananas. A monkey took 3. How many were left?

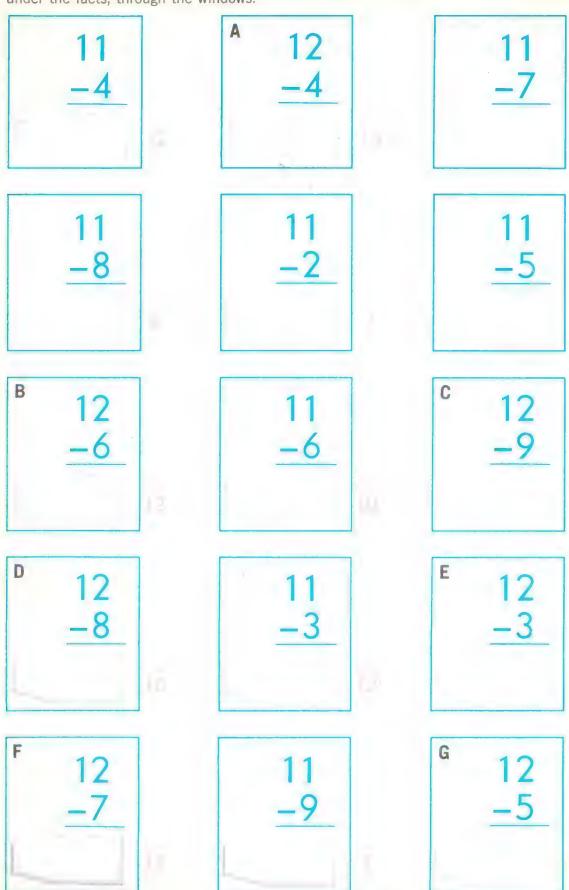
G

12 7 There were 12 bottles. 7 were filled. How many were not filled?

There were a dozen cookies. 12 5 were red. 5 How many were not red?

**WHAT TO DO:** 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



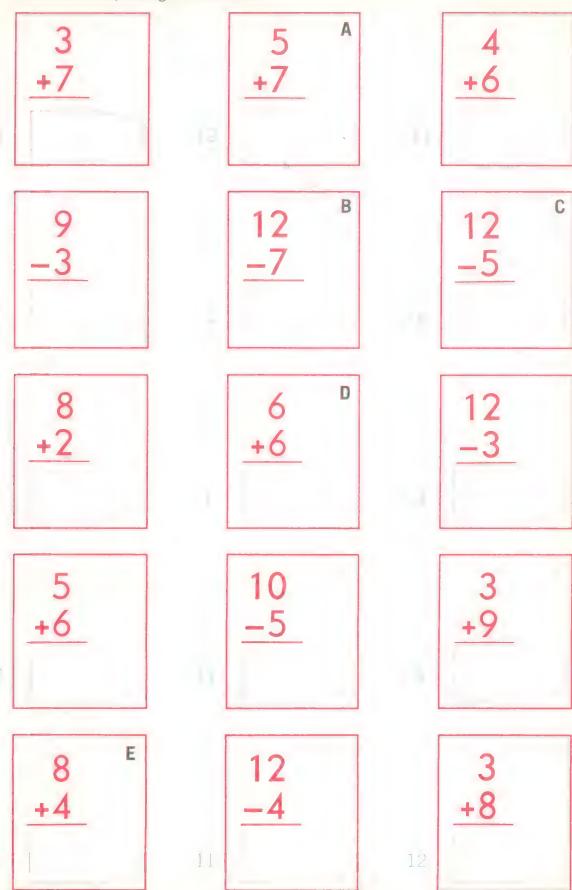
3 – Now check your work. Put your paper or Magic Slate under page 45. See if your answers are the same as the little blue numbers in the windows.

#### NOTE:

- TE 16

**WHAT TO DO: 1** — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

**2**—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 42. See if your answers are the same as the little red numbers in the windows.

#### NOTE

- The

## ST. VALENTINE'S DAY

This page is for study only. Study the pictures below as you look at the facts on page 44.

A



How many candy hearts are there in all?

5 + 7

.

4

B



There are 12 valentines.

7 are red. How many valentines are white?

3

9

6

C

See the picture in A.

If the children eat the red candy hearts,
how many candy hearts will be left in the dish?

12 - 5

D

6 cookies and 6 cookies are how many cookies?

+ 6



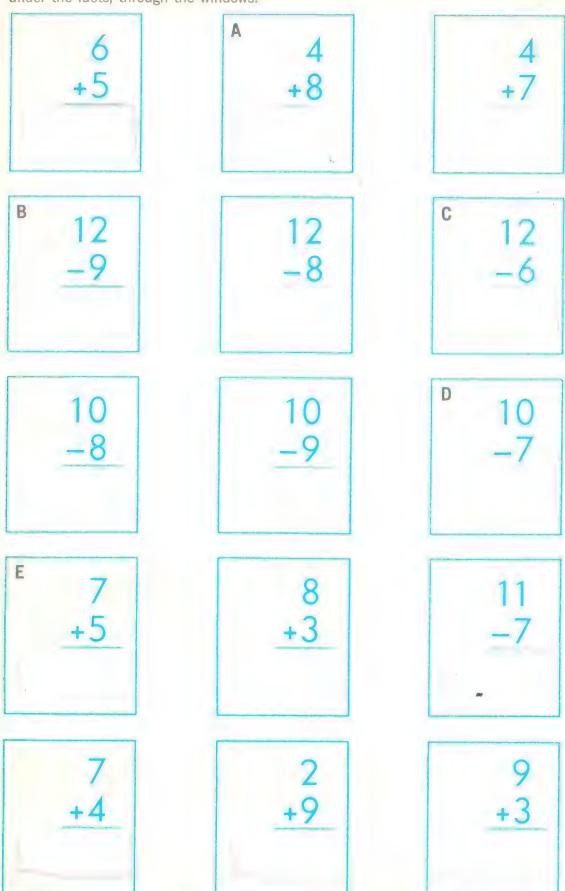
E

How many children are + 4 there in all?



**WHAT TO DO:** 1 - Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 44. See if your answers are the same as the little blue numbers in the windows.

- "TO 6

## ANDY'S BIRTHDAY PARTY

This page is for study only. Study the pictures below as you look at the facts on page 46.





4 tails and 8 tails are how many tails? +

В



There were 12 glasses.

The children took 9 glasses.

How many glasses are left?

?

C

There are 12 children at Andy's party. 12 6 are boys. How many are girls? — 6



D

10 children were playing.

7 are still playing.

How many are out of the game?





E



7 presents and 5 presents are + 5 how many presents?



#### EASTER EGG HUNT

A

7 - 2 Jane has 7 eggs. Mary has 2 eggs. How many more eggs has Jane than Mary?



В



 $000 - \frac{3}{2}$ 

C



5 eggs and 2 eggs are how many eggs?

5 + 2 ?

D

There are 8 yellow eggs.
There are 2 red eggs.
How many more yellow eggs
than red eggs are in the basket?

8 - 2



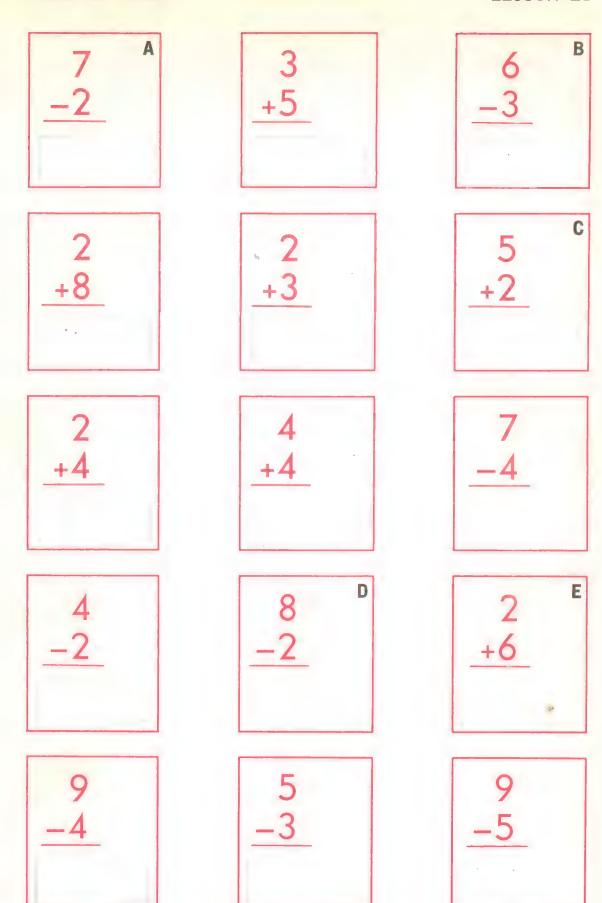
Ε



How many eggs in all did the children find?

+ 6

This page is for study only. Study the pictures above as you look at the facts on page 49.



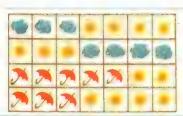
**WHAT TO DO:** 1 - Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 51. See if your answers are the same as the little red numbers in the windows.

## RAIN OR SHINE

11

First week Second week Third week Fourth week



# **FEBRUARY**

There are 7 days in a week.

3

2

A

Look at the 7 days in the second week. 3 days were sunny. How many days were not sunny?



2

3

.]

1()

There were 3 cloudy days in the first week. There were 4 cloudy days in the second week. B How many cloudy days were there during these two weeks?



10

5

There were 5 rainy days in the third week. There were 3 rainy days in the fourth week. C How many rainy days were there during these two weeks?

2



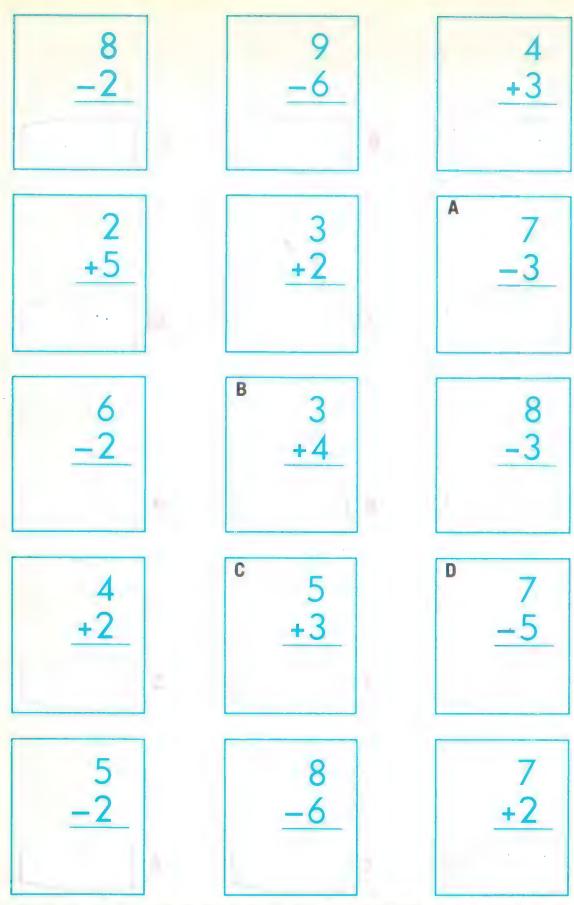
D



Look at the 7 days in the third week. 5 were rainy.

How many days were not rainy?

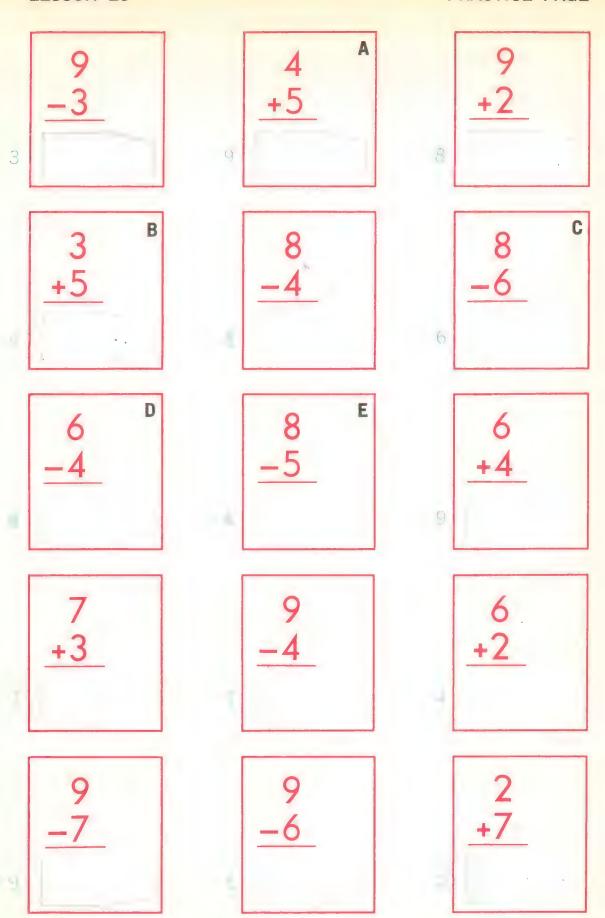
This page is for study only. Study the pictures above as you look at the facts on page 51. DO NOT write through the windows in this page.



**WHAT TO DO:** 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 53. See if your answers are the same as the little blue numbers in the windows.

#### NOTE:



**WHAT TO DO: 1** — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- **3**—Now check your work. Put your paper or Magic Slate under page 50. See if your answers are the same as the little red numbers in the windows.

#### NOTE:

## AT THE CIRCUS

6

3

A



How many is are there altogether?

5

4

B

How many 烤 s do you see?



5

C



How many more white dogs are there than black dogs?

6

8

2

D

How many more clowns are on the elephant than on the horse?







2 ;

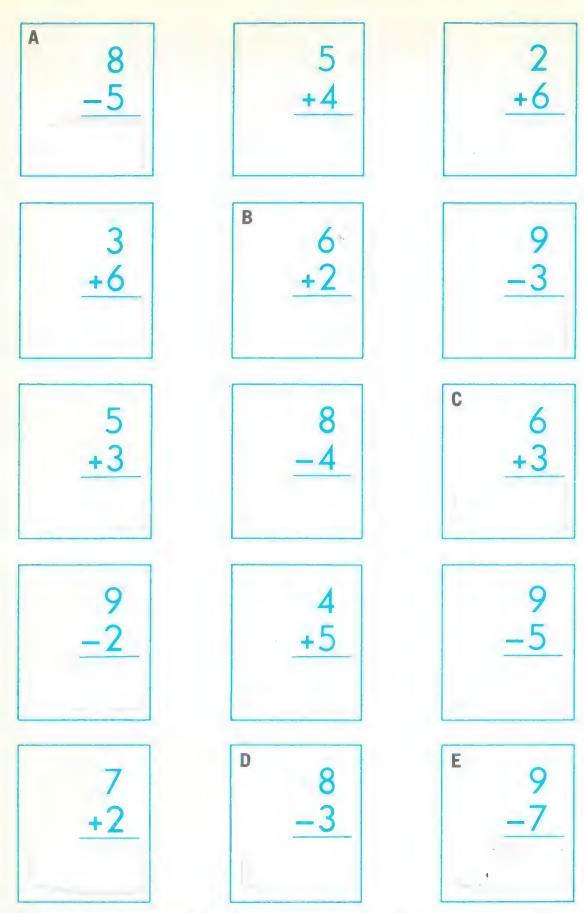
9

E



How many more monkeys are there than horses?

This page is for study only. Study the pictures above as you look at the facts on page 52. DO NOT write through the windows in this page.



**WHAT TO DO:** 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 52. See if your answers are the same as the little blue numbers in the windows.

## AT THE ZOO

A



The man is going to take away the little monkeys. How many monkeys will be left?

- <del>5</del>

B

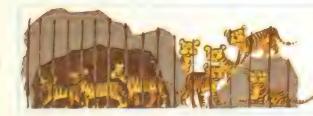


6 lions and 2 lions + 2 are how many lions?

C



Г



There were 8 % s.
3 % s are walking into their den.

How many will be left outside?

<u>- 3</u>?

E



9 s are on the rock. 7 s are in the water.

How many more s are

on the rock than in the water?

9 - 7 ?

This page is for study only. Study the pictures above as you look at the facts on page 54.

#### GOING FISHING

This page is for study only. Study the pictures below as you look at the facts on page 57

A

Bill and John were fishing.

8 other boys were fishing.

How many boys in all

were fishing?



В



Bill caught 3 fish.

John caught 9 fish.

How many fish in all did they catch?

3 + 9 ?

C

Bill has 9 \( \int \) s.

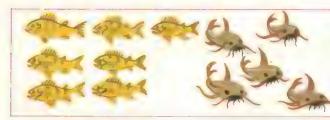
John has only 2 \( \int \) s.

How many \( \int \) s

do they have altogether?



D



The boys caught 12 fish. 5 of them were

12 \_ 5

How many did they catch?

E

The boys had 12 fish.

John kept 8.

How many were left for Bill?

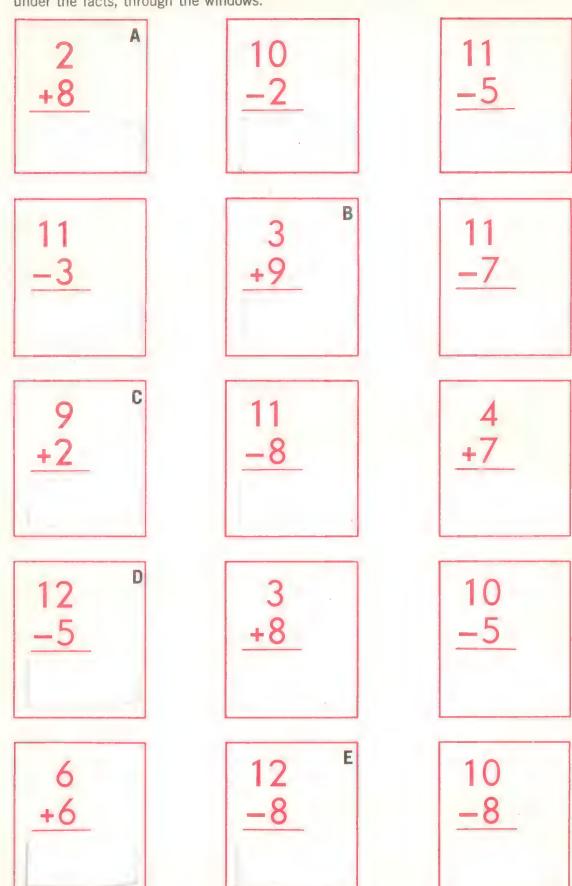
12 - 8





**WHAT TO DO:** 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 59. See if your answers are the same as the little red numbers in the windows.

## SPRING FLOWERS

This page is for study only. Study the pictures below as you look at the facts on page 59.

A



3 plants and

7 plants are how many plants?

B

How many more red flowers are there than 12 yellow flowers?

C



There were 12 plants.

3 of them were sold. How many were not sold? 12

D

9 flowers and 3 flowers are how many flowers?



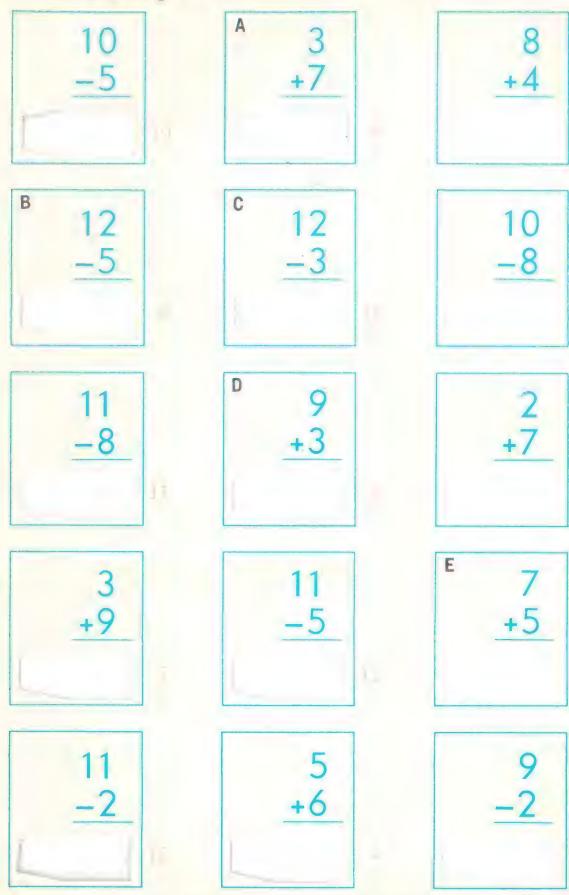
E



How many flowers are there in all?

**WHAT TO DO: 1** — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



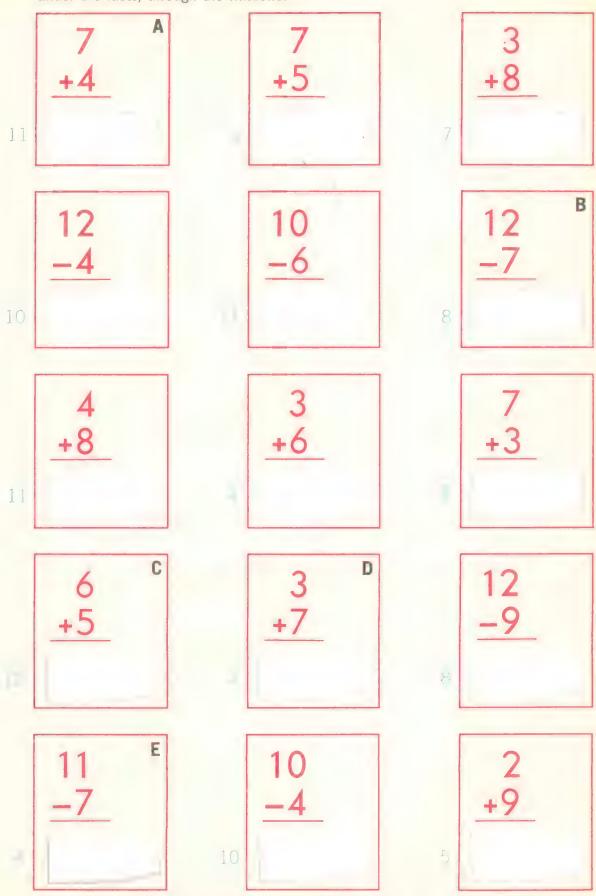
3 – Now check your work. Put your paper or Magic Slate under page 61. See if your answers are the same as the little blue numbers in the windows.

#### NOTE:

The red numbers outside the boxes have nothing to do with the facts on this page.

**WHAT TO DO: 1** — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 58. See if your answers are the same as the little red numbers in the windows.

#### NOTE:

The blue numbers outside the boxes have nothing to do with the facts on this page.

#### AT THE STORE

This page is for study only. Study the pictures below as you look at the facts on page 60.

A

How many chickens do you see?

Į.

10

12

В

Mrs. Jones wants 12 apples. 7 apples are on the table. How many more apples does she need?

12 **060000000** 

?

How many s are there altogether?

6 + 5

C



3 cans and 7 cans are how many cans?

+ 7

12

6

12

E



Mrs. Smith had 11 dollars.

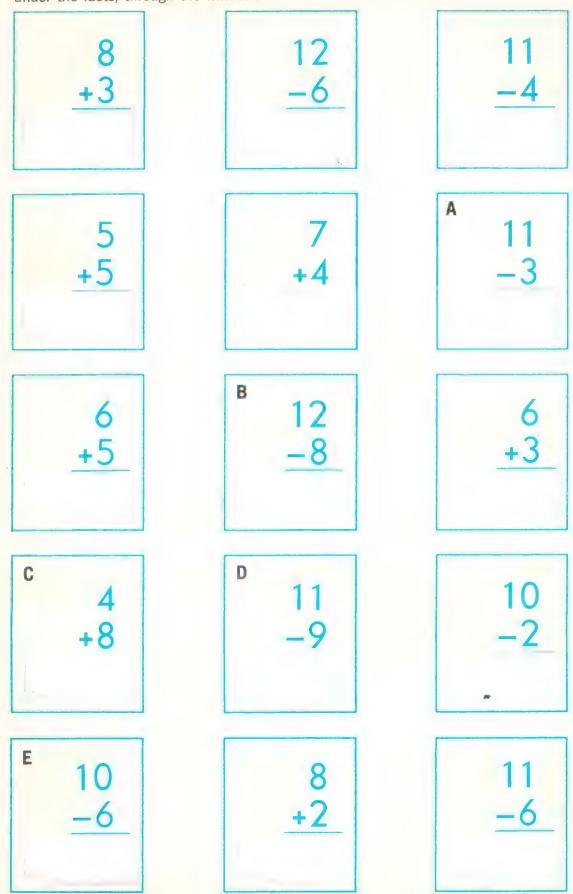
She paid 7 dollars for food.

How many dollars are left?

11 | HILLS | H

**WHAT TO DO: 1** — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 – Now check your work. Put your paper or Magic Slate under page 60. See if your answers are the same as the little blue numbers in the windows.

. 75 6

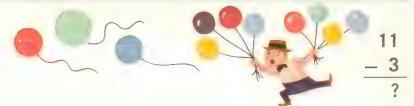
# **FUN WITH BALLOONS**

This page is for study only. Study the pictures below as you look at the facts on page 62.

The man had 11 balloons.

A 3 got away.

How many did he have left?



В



How many more balloons has Joe than Ruth?



C

4 balloons and 8 balloons are how many balloons?







D



Each child wants
a balloon.
How many more
balloons are needed?

Ε





The children bought 6.



# AT THE CANDY STORE

There are 12 bags of candy.

The children take 3 bags.

How many are left?

R



Jim had a dime.

He bought 3 lollipops.

How much money
did he have left?

12

3



10¢ ••••• - 3¢ •••

C



4 candy apples and 7 more are how many?

+ 7

D

How many candies does the boy see?
6 and 4 are how many?

6+4

Ε



8 rabbits and 3 rabbits are how many rabbits?

+ 3

This page is for study only. Study the pictures above as you look at the facts on page 65.



**WHAT TO DO: 1** — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 67. See if your answers are the same as the little red numbers in the windows.

#### AT THE BAKERY

A



Mrs. Jones bought the cherry pies. How many pies were left?

11

B

How many s are there in all?





C



7 cookies and 4 cookies are

how many cookies?

D

Tom wants a dozen s. 12 How many more should the man - 9 put into the box?





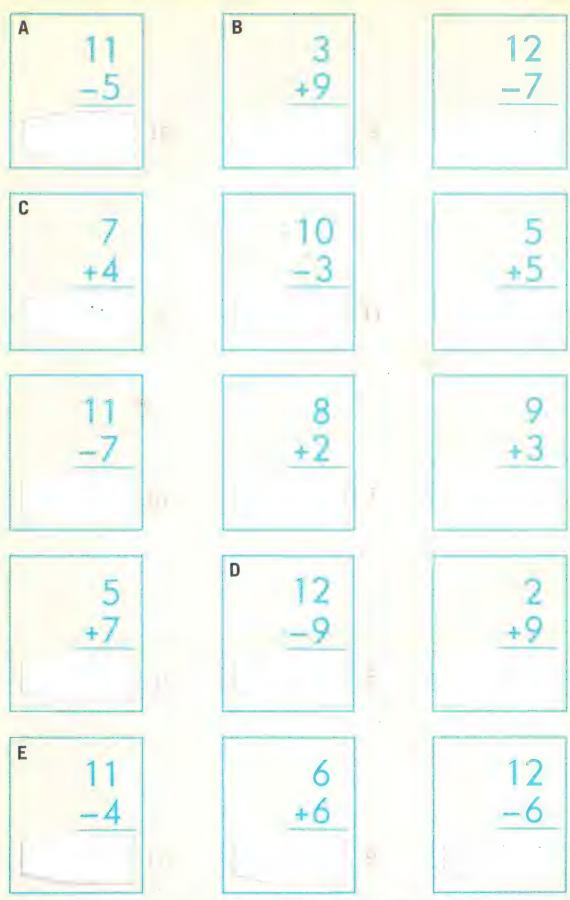
E



There were 11 cakes. The man sold 4.

How many are left?

11

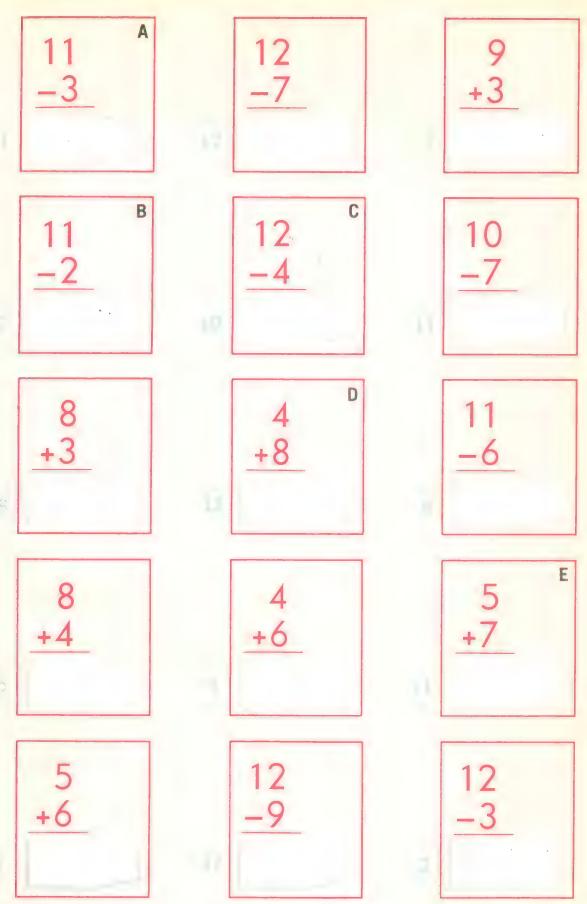


**WHAT TO DO:** 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 69. See if your answers are the same as the little blue numbers in the windows.

#### NOTE:

75.6



**WHAT TO DO: 1** — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 66. See if your answers are the same as the little red numbers in the windows.

#### NOTE:

## ON THE BEACH

Α

11 How many more boys

\_ 3

are on the raftthan in the water?



В



11

<u>- 2</u>

John has 11 . s.

He is giving away 2 of them.

How many swill he have left?

C

Mary had 12 ★.

She gave John 4 \*.

How many did she have left?



12

3

11

D



7

10

6

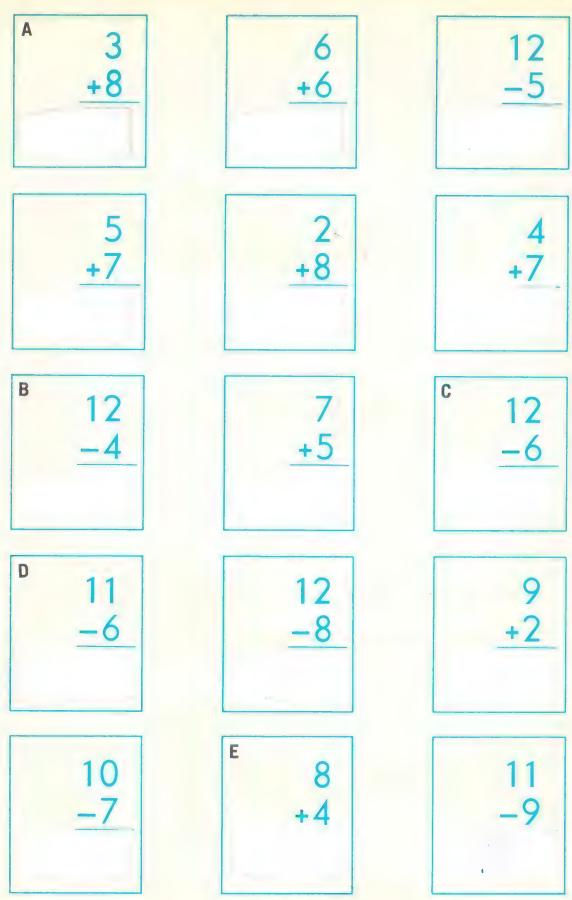
E



How many s do you see?

5 + 7

This page is for study only. Study the pictures above as you look at the facts on page 68. DO NOT write through the windows in this page.



**WHAT TO DO:** 1 - Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2—Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 68. See if your answers are the same as the little blue numbers in the windows.

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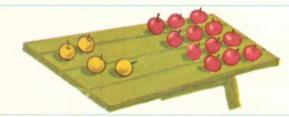
## THE COOK-OUT

A

3 cups and 8 cups are how many cups?



В



How many more red apples are there than yellow apples?

C



12

There are 12 Dick peeled 6.

How many are not peeled?

D

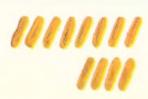
$$\frac{11}{-6}$$



How many more are there than



E



8 rolls and 4 rolls are how many rolls?

This page is for study only. Study the pictures above as you look at the facts on page 70.

# A Note to Teachers and Parents

Growth through Self-Direction - There are wide individual differences among children, even in a well-graded class. These differences are often most pronounced with respect to computational skills. It is here that the Knowledge Master Books satisfy a real need, felt by parents and teachers alike. These books enable the learner to study facts while looking at the answers; to test himself with the answers concealed; and finally to check himself while he sees simultaneously the fact, the correct answer, and his own answer. Through Knowledge Master Books for arithmetic, the learner may proceed rapidly toward complete mastery of the fundamental facts.

This series makes a further contribution to the learner's growth. Because the child is in control of the essential elements in learning arithmetic, he senses a personal responsibility for his own progress. Thus, through their technical provisions for Self-Study, Self-Test, and Self-Check, the Knowledge Master Books facilitate the development of the all-important habits of self-direction and self-reliance. Purposeful Practice — Just as the "old school" went too far in its rather exclusive use of drill, many modern schools rely too heavily on "experiences" and "activities." We now know that when a child learns the purpose of practice, he will be motivated to work harder in order to acquire and maintain the requisite skills. That is the purpose of these books.

For School and Home Use — These books do not pretend to supplant the teacher and the basic arithmetic textbook. The teacher, using good books, must provide the stimulating developmental experiences and detailed explanations that give full meaning to arithmetical problems and processes. The Knowledge Master Books are designed to supplement the customary school materials and activities. They can be effectively used in both the school and the home.

THE AUTHORS

There will be five books in the arithmetic series. Here is a brief outline of the subject matter in each book:

First Book — 43 basic addition facts and 43 basic subtraction facts, with sums and minuends of 4 through 12.

Second Book — 21 basic addition facts and 21 basic subtraction facts, with sums and minuends of 13 through 18.

Third Book — Extended application of all basic addition and subtraction facts, column addition, "carrying" in addition, "borrowing" in subtraction, zero difficulties.

Fourth Book — First half of basic multiplication and division facts.

Fifth Book — Completion of basic multiplication and division facts.

